```
<!--StartFragment-->RESULT 15 to 10 60 1, 128 Talk & Rec porture
AAE29399
     AA £29399 standard; protein; 145 AA.
ΙD
XX
                                                                       Carrado.
AC
     AAE29399;
XX
DT
     27-JAN-2003 (first entry)
XX
     N. meningitidis ADP-ribosylating toxin mutant protein (E111X).
DE
XX
     ADP-ribosylating toxin; immune response; mucosal adjuvant; gene therapy;
KW
     vaccine; bacterial infection; immunostimulant; antibacterial; mutant;
KW
     mutein.
KW
XX
os
     Neisseria meningitidis MC58.
os
     Synthetic.
XX
FH
     Key
                    Location/Qualifiers
FT
     Misc-difference 111
                     /note= "Wild-type Glu substituted with Xaa where Xaa
FT
                     corresponds to Ala, Gly, Lys, Asp, Ser"
FT
XX
     WO200279242-A2.
ΡN
XX
     10-OCT-2002.
PD
                                      1. US
XX
     28-MAR-2002; 2002WO-IB002080.
PF
XX
     30-MAR-2001; 2001GB-00008024.
PR
XX
     (CHIR-) CHIRON SPA.
PΑ
XX
     Masignani V, Pizza M, Rappuoli R;
PΙ
XX
     WPI; 2002-740936/80.
DR
XX
PT
     New protein useful for manufacturing a medicament for raising an immune
PT
     response or for treating or preventing bacterial infection, as a mucosal
     adjuvant, as a diagnostic reagent, or as a vaccine.
PT
XX
PS
     Disclosure; Page; 62pp; English.
XX
     The present invention relates to novel ADP-ribosylating bacterial toxins
CC
     and polynucleotides encoding such proteins. Toxins of the invention or
CC
     their mutants are useful in the manufacture of medicaments for raising an
CC
     immune response in animals or for use as mucosal adjuvants. They are used
CC
     as diagnostic reagents for detecting the presence of bacteria or
CC
     antibodies raised against the bacteria. The compositions are used as
CC
     medicaments (e.g. vaccine) or in the manufacture of medicaments, for
CC
     treating or preventing bacterial infection such as those caused by
CC
     Neisseria meningitidis, Streptomyces coelicolor, Mycoplasma pneumoniae,
CC
CC
     Salmonella typhimurium, Salmonella paratyphi or Streptococcus pyogenes.
     Sequences of the invention are also used in gene therapy. The present
CC
     sequence is Neisseria meningitidis serogroup B ADP-ribosylating toxin
CC
     truncated mutant protein. Note: This sequence is not shown in the
CC
     specification but is derived from Neisseria meningitidis ADP-ribosylating
CC
CC
     toxin wild-type protein shown as SEQ ID NO: 1 in page 51 of the
CC
     specification (AAE29372)
XX
SQ
     Sequence 145 AA;
```

```
99.2%;
                          Score 767; DB 5;
 Query Match
                                          Length 145;
 Best Local Similarity
                    99.3%; Pred.' No. 8.4e-82;
 Matches 144; Conservative
                          0; Mismatches
                                           Indels
Qу
         1 MGNFLYRGISCQQDEQNNGQLKPKGNKAEVAIRYDGKFKYDGKATHGPSVKNAVYAHQIE 60
           Db
         1 MGNFLYRGISCQQDEQNNGQLKPKGNKAEVAIRYDGKFKYDGKATHGPSVKNAVYAHQIE 60
        61 TGLYDGCYISTTTDKEIAKKFATSSGIENGYIYVLNRDLFGQYSIFEYEVEHPENPNEKE 120
Qу
           Db
        61 TGLYDGCYISTTTDKEIAKKFATSSGIENGYIYVLNRDLFGQYSIFEYEVXHPENPNEKE 120
Qy
        121 VTIRAEDCGCIPEEVIIAKELIEIN 145
           Db
        121 VTIRAEDCGCIPEEVIIAKELIEIN 145
<!--EndFragment-->
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371 PCT date is 9/10/2003 Provisional 2/11/20113 UK in Englace 5/80/26132